

INTRODUCTION

The Gen 3 Liquid Level Controller was created to help oil and gas producers maintain accurate liquid level control and maintain performance even in harsh environments.

The Gen 3 features durable components, easy on-site adjustments, field-adjustability, and snap or throttle operating modes.

Paired with a pneumatic pressure control valve, it provides long-lasting, precise liquid level control in separation equipment to keep wells operating at optimal production levels.

In this field study, we'll show how the level controller performed at a well site in the Anadarko Basin.

PROBLEM

A midstream company in Western Oklahoma needed to maintain accurate level control in the scrubber on their compressor skid. This application featured heavy vibration due to the operation of the compressor, which was causing their level controllers to fall apart and fail.

APPLICATION & PRODUCT DETAILS

- Application: Scrubber on a Compressor Station with Vibration
- Production Type: Natural Gas Production
- Connection Size/Type: 2" NPT
- Mount Side: BM (Left)
- Pilot Mode: Snap
- Valve Mode: Direct
- Displacer: Standard
- Extension: Standard
- Displacer Orientation: Vertical
- Process Seal: 90A Viton O-Ring



SOLUTION

The producer worked with the Kimray team in Oklahoma City to upgrade their level controller to a Gen 3 and paired it with control valve on the dump line.

Summary of Installation: The Gen 3 was installed on the scrubber to sense the liquid level inside the vessel and respond accordingly. When it reached the set point based on that level, it communicated pneumatically to the control valve, dumping the liquid to a holding tank for further processing.

Date of Installation: 1/5/22

“We are completely satisfied
with the product.”

-Compressor Mechanic, Anadarko Basin

RESULTS

After 3 months of operation, the Gen 3 was holding steady.

In the words of the customer:

“So far we haven't had any issues at all with the level controller. We haven't had to make a single adjustment and we haven't had a single shutdown on scrubber level. No problems maintaining the right level, no resetting. The level seems to be pretty consistent. We are completely satisfied with the product. So far, we are very impressed with the way it operates.”

-Compressor Mechanic, Anadarko Basin

INTRODUCTION

The Gen 3 Liquid Level Controller was created to help oil and gas producers maintain accurate liquid level control and maintain performance even in harsh environments.

The Gen 3 features durable components, easy on-site adjustments, field-adjustability, and snap or throttle operating modes.

In this field study, we'll show how the level controller performed at a well site in the Gulf Coast area in South Texas.

PROBLEM

An energy producer was having difficulty holding interface levels with their existing liquid level controllers. The settings on the controller would have to be re-adjusted every few days to get the controller to actuate at the right levels. They had tried level controllers from 2 different manufacturers with no success in fixing the issue.

APPLICATION DETAILS

- Production Dates – June 2023 - Present
- Wells on Property – 800
- Production Type – Primary Water Flood
- Vessel Types – 2-phase and 3-phase separators, test separators
- Solids in Fluid – Some sand
- Upstream Pressure – 80 psi
- Downstream Pressure – 30-40 psi
- Recent Oil Production – 50k BBLs per month
- Recent Gas Production – 56 MMCF per month



SOLUTION

The producer worked with the Kimray team in Houston to replace one of their level controllers with a Gen 3.

Product Installed: LCR with 3x12" displacer

Date of Installation: 6/1/23

“
It's easy to set up and needed no adjustments after getting it set.

-Operator, South Texas

”

RESULTS

The Gen 3 continues to hold interface with no adjustments needed. The Gen 3 has been in place for 3 months.

Based on this performance, the production foreman made the call to standardize the Gen 3 for all production moving forward.

In the words of the customer:

“It's easy to set up and needed no adjustments after getting it set. We would normally have to adjust the other controllers multiple times a week to try and hold interface level.”

-Operator, South Texas

INTRODUCTION

The Gen 3 Liquid Level Controller was created to help oil and gas producers maintain accurate liquid level control on their separation equipment even in harsh environments, featuring durable components, easy on-site adjustments, and snap or throttle operating modes with one pilot.

Paired with a pneumatic dump valve, it provides long-lasting, precise liquid level control in separation equipment to keep wells operating at optimal production levels.

In this field study, we'll show how the level controller performed at a well site in Central Oklahoma.

PROBLEM

An upstream producer in Central Oklahoma needed to maintain accurate level control in their 3-phase separators. They were using a competitor's level controllers, which were acting erratically, not holding the level consistently. The producer often had to adjust the level settings or change out the pilots to get them to work correctly.

In addition, these controllers bled continuously, allowing the compressed instrument air to escape and causing the compressors to start up more often, draining the compressor motor battery at a faster rate.

In the competitor's level controller design, vent gas bleeds into the case out of a small orifice, not a threaded port. While this was not an emissions issue in this application with compressed air supply, in other locations where this producer was using supply gas from the vessel, vent gas couldn't be captured to help reduce emissions.

APPLICATION DETAILS

- Production Type: Gas injection artificial lift
- Oil Volume: 600 Bbl/D
- Water Volume: 800 Bbl/D
- Gas Volume: 10 MMCFD
- Solids in fluid: moderate in flowback phase, low in production phase
- Corrosiveness: low
- H2S: low
- Vessel Pressure: 300 PSI
- Vessel Type: 3-phase separator
- Level Controller Supply Pressure Type: Compressed Air



SOLUTION

The producers installed a 2" NPT Gen 3 Liquid Level Controller on their separators.

With the Gen 3 installed, the producer no longer had to frequently adjust the level settings or change out the pilot to hold a consistent liquid level, and since the Gen 3 doesn't continuously vent, the compressor would start up less often.

Date of Installation: Date installed: March 6, 2023

“
When can we replace all of our (current
level controllers) with Gen 3s?
”

-Field Operator, Central Oklahoma

RESULTS

After 7 months of operation, the producer reported that the Gen 3 has been reliable, simple to set, and easy for their field hands to learn to operate.

In the words of the field operator to his superintendent:
“When can we replace all of our (current level controllers) with Gen 3s?”
-Field Operator, Central Oklahoma

Based on these results, they have decided to standardize Gen 3s on all liquid level control applications, utilizing them on new installs and on replacing existing units as they fail or wear out.

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